New Journal of Chemistry 2018 vol.42 N1, pages 465-475

Temporal multi-sensor system for voltammetric recognition of l- and d-tryptophan enantiomers based on generalized principal component analysis

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2018 The Royal Society of Chemistry and the Centre National de la Recherche Scientifique. The results of a quantitative reading of the cyclic voltammetry behavior of the tryptophan (Trp) enantiomers deposited on an electrochemically activated glassy carbon electrode (GCE) are presented. A combined method for "reading" the analytical signals based on the modified Fourier transform and GPCA was applied. It allows a quantitative description of a derivative (dJ/dU) of the measured VAG. This combined method essentially increases the limits of conventional PCA and can be applied to a wide set of electrochemical data. This combined method allows the differentiation and quantitative description of signals governed by the different structures of l- and d-Trp(s) in aqueous solutions.

http://dx.doi.org/10.1039/c7nj03695g

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